DESCRIPTION OF A NEW SPECIES OF CHIPMUNK FROM CALIFORNIA (*Tamias macrorhabdotes* sp. nov.).

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(Read December 26, 1885.)

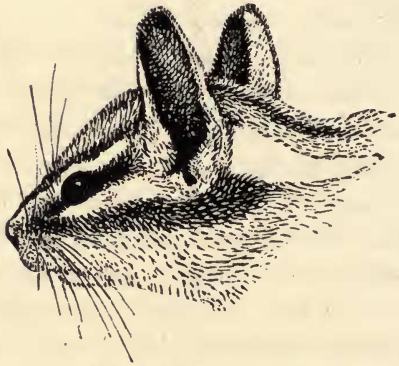
I have recently secured, from the Sierra Nevada mountains of central California, a series of Chipmunks or Ground Squirrels which differ markedly from any known species. In size they closely approach typical examples of *Tamias asiaticus townsendi;* and in coloration they are in some respects intermediate between vars. *townsendi* and *borealis*, while in other respects they are peculiar. They may be distinguished at a glance from all other described forms by the great length of the ear, the clearness and sharpness of definition of the light stripe which occupies its posterior half, and by the large size and whiteness of the spot behind its base.

Tamias macrorhabdotes* sp. nov. **LONG-EARED CHIPMUNK.**

Diagnosis.—Ears exceedingly long, measuring from 16 to 17 mm. in height from the occiput (average of ten, 16.20 mm.). Crown grizzled grayish-brown, more or less mixed with rusty; convex surface of ears sharply bicolor vertically, anterior half sooty-brown, with a slight admixture of rusty near the anterior margin, posterior half ashy-white in striking contrast; a large white spot (nearly as large as the ear itself) on each side of the neck just behind the ear and continuous with its ashy-white posterior half and with the white cheek-stripe under the eye, and almost continuous posteriorly with the external lateral white

*Macro-rhabd-ótes: μακρός, long; ῥάβδος, stripe; οὖς, ὠτός, ear,—in allusion to the long, striped ear, which is diagnostic of the species.

stripe; five dark dorsal stripes (outer often indistinct), rusty umber to sepia brown; the two outer of each side separated by a grayish-white stripe which is almost continuous anteriorly with the white blotch behind the ear; the median and inner of each side separated by a grayish stripe more or less obscured with rusty; rump grizzled gray sometimes tinged with brownish; sides pale fulvous to deep rusty fulvous, the color extending well



TAMIAS MACRORHABDOTES.

up on the neck, but never back over the hips; under parts white or soiled white; tail above sub-terete, almost black, with hoary tips to the hairs and with more or less hazel showing through; tail below distichous, mesially bright hazel, heavily bordered with black and edged with hoary. The facial stripes are highly developed and are five in number, three rusty umber and two white, as follows: A narrow white stripe runs from the tip of the nose to the anterior base of the ear, passing over the eye; it is bordered above by a stripe of rusty umber (which is broadest and darkest from the eye to the ear), and below by another of the same color which passes through the eye and terminates at the meatus; below this is a second white stripe, broader than the first, which runs just below the eye and thence backward under the root of the ear, where it bends upward and backward, becom-

ing continuous with the white spot behind the ear; below this still is another rusty umber stripe which ends against the white just back of the ear.

MEASUREMENTS.—The twelve specimens before me are all skins, but they are well prepared and afford measurements which may be regarded as approximately correct. The length of head and body varies from 125 to 140 mm. and the tail with hairs from 105 to 130 mm. The hind foot with claw averages between 34 and 35 mm.

CRANIAL CHARACTERS.—The nasal bones are both relatively and absolutely longer in *macrorhabdotes* than in its nearest ally, *townsendi*, notwithstanding the fact that the latter is the larger animal. The longest nasal in the four skulls of *townsendi* before me measures 11.00 mm., while the smallest of five adult *macrorhabdotes* measures 12.60 mm. and the largest 13.20 mm. The nasals usually project backward in *macrorhabdotes* beyond the line of the fronto-premaxillary suture, while in *townsendi* they generally end flush with the suture. Their ratio to the basilar length in *townsendi* is 35.73 mm. (average of two), against 44.54 in *macrorhabdotes* (average of five fairly adult specimens). In addition to their shortness, the nasal bones in *townsendi* average a little broader, particularly behind; thus the average width (at the fronto-premaxillary suture) of four specimens of *townsendi* is 3.27 mm., while the average of eight specimens of *macrorhabdotes* is 2.85 mm. Hence the average of the ratios of the posterior breadth of the nasal bones to their length in nine skulls of *macrorhabdotes* is 22.97, while in four skulls of *townsendi* it is 30.75.

Interorbitally, the frontal bone averages somewhat broader in *macrorhabdotes* than in *townsendi*. The palate is longer in the latter. The average ratio of the length of the palate to the basilar length in eight specimens of *macrorhabdotes* is 53.96, while in two specimens of *townsendi* it is 56.80.

The parietal and supra-occipital bones co-ossify so early in life that in the adults it is generally impossible to detect the suture between them; hence they are here measured together. They are very much shorter in *macrorhabdotes* than in *townsendi*, measuring from 10.60 to 11.00 mm. (four-tenths of a millimetre covering the limits of variation in nine specimens); while in *townsendi* two specimens measure respectively 13.50 and 13.00 mm. The average of the ratios of the length of the parietals and supra-occipital, thus united, to the basilar length in eight skulls of *macrorhabdotes* is 37.87; in two of *townsendi* it is 45.77.

The first upper premolar is decidedly smaller in *macrorhabdotes* than in *townsendi;* it has evidently ceased to be functional and is fast becoming obsolete—one of many characters pointing to the higher differentiation of the new species.

The pretty little Striped Squirrel which forms the subject of the present paper is one of peculiar interest. It is surprising that an animal of its size and diurnal habits, and one which differs so markedly from even its nearest relative, should have escaped so long the notice of the many naturalists and collectors who have traversed the region. The most natural explanation is that the Long-Eared Chipmunk is an exceedingly local species, restricted in its range by certain physiographical conditions of which we are at present ignorant—conditions which were influential, doubtless, in bringing about the modifications which distinguish it from its congeners and mark it as one of the most highly specialized of the genus *Tamias*. That this genus is peculiarly susceptible to environmental influences is amply attested by the number and perplexing characteristics of the incipient species already known from the United States.

The specimens of this new species were collected by C. A. Allen, of Nicasio, California, and the accompanying figure was drawn by Ernest E. T. Seton.